

# **IP Outdoor High Speed Dome CAM-6600 series**

**Ver. 090318**

## **Hardware User's Manual**



[www.acti.com](http://www.acti.com)



# PRECAUTIONS

## 1. Read these instructions

All the safety and operating instructions should be read before the product is operated.

## 2. Heed all warnings

All warnings on the product and in the instruction manual should be adhered to.



The symbol indicates the following items, please carefully read the description next to each symbol.

- a. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.
- b. The requirements to make this device work, including hardware, computer settings, network settings, and operation procedures.
- c. The tips to make using this device easier, more convenient and more efficient.

## 3. Servicing

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

## Copyright

This manual is the intellectual property of ACTi and is protected by copyright. All rights are reserved. No part of this document may be reproduced or transmitted for any purpose by any means including electronic or mechanical without the official written permission from ACTi.

## Trademarks

All names used in this manual for hardware and software are probably registered trademarks of respective companies.

## Liability

Every care has been taken during writing this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any

typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

### **FCC/CE Regulation**

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

# Table of Contents

<b>0</b>	<b><i>PRECAUTIONS</i></b>	<b><i>0-1</i></b>
	Copyright	0-1
	Trademarks	0-1
	Liability	0-1
	FCC/CE Regulation	0-2
<b>1</b>	<b><i>INTRODUCTION</i></b>	<b><i>1</i></b>
<b>1.1</b>	<b>Package Contents</b>	<b>1</b>
<b>1.2</b>	<b>Features and Benefits</b>	<b>2</b>
<b>1.3</b>	<b>Safety Instructions</b>	<b>5</b>
<b>1.4</b>	<b>Physical Description</b>	<b>7</b>
<b>1.5</b>	<b>IP High Speed Dome Setups</b>	<b>12</b>
	1.5.1: Preparations for Dome Setups	12
	1.5.2: Dome Setups	14
<b>1.6</b>	<b>Basic Connections</b>	<b>15</b>
	<b>Appendix A: Speed Dome Installation</b>	<b>16</b>
	A-1: Optional Accessories	16
	A-2: Ceiling Mount (Straight Tube)	23
	A-3: Wall Mount	24
	A-3-1 Wall Mounting with Gooseneck Tube	24
	A-3-2 Wall Box Mounting	25
	A-4: Corner Mount	25
	A-4-1 Corner Standard Mounting Plate	25
	A-4-2 Corner Thin/Wide Box Mounting	26
	A-5: Pole Mount	27
	A-5-1 Pole Thin/Wide Direct Mounting	27
	A-5-2 Pole Thin/Wide Box Mounting	28
	<b>Appendix B: OSD Menu Notes</b>	<b>29</b>
	B-1: OSD Display Format	29
	B-2: OSD Setup Menu	29
	B-3: Configuration Menu	36
	B-3-1 DEFAULT CAMERA	36

B-3-2	BACKLIGHT	37
B-3-3	FOCUS	37
B-3-4	APERTURE	38
B-3-5	AE MODE	39
B-3-6	WBC MODE	41
B-3-7	ID DISPLAY	42
B-3-8	SETUP MENU	42
B-3-9	SETUP MENU2 (18x MODEL Only)	46
B-3-10	TITLE DISPLAY	47
B-3-11	TITLE SETTING	47
B-3-12	ALARM SETTING	48
B-3-13	HOME SETTING	50
B-3-14	SEQUENCE	52
B-3-15	AUTOPAN	53
B-3-16	CRUISE	55
B-3-17	IR FUNCTION (Removable IR Cut)	56
B-3-18	ALARM DETECT (18x MODEL Only)	57
B-3-19	WDR SETTING (23x MODEL / 35x MODEL Only)	58
B-3-20	PRIVACY	59
B-3-21	TIME FUNCTION	62
B-3-22	EXIT OSD	63

# 1

## INTRODUCTION

### 1.1 Package Contents

CAM-6600 series



Warranty Card



Product CD



Power & A/V Cable



LAN/WAN Cable



Alarm Cable



5.4" Transparent Cover



Power Adaptor



Lubricant




Screws





## 1.2 Features and Benefits

The IP High Speed Dome is designed to deliver superb performance and durability with an intelligent and stylish housing. It also provides a reliable real time images with outstanding image quality (D1, 720x480) at reasonable bandwidth through a standard TCP/IP network. That's because it is Ethernet (LAN and WAN) ready and has a powerful ARM9 SoC and the MPEG-4 compression ASIC inside. In addition, with these powerful hardware platform, excellent SDK support and powerful respective apparatuses (eg. the transcoder or control keyboards), this IP high speed dome is your best choice building up either conventional IP surveillance system or intelligent IP surveillance system.

The integrated IP high speed dome provides three models:

 **18x MODEL:** 18x optical zoom multiply 12x digital magnifier/D&N

 **23x MODEL:** 23x optical zoom multiply 12x digital magnifier/D&N/WDR

 **35x MODEL:** 35x optical zoom multiply 12x digital magnifier/D&N/WDR

### Precise and Accurate Tracking

Scheduling function, a special feature, enables users to program a preset point or function (Sequence/Auto/Cruise) automatically actions in certain period of time. The IP high speed dome provides variable pan/tilt speed ranging from a fast patrol of 400° per second to a slow ramble of 5° per second with 0.225° pan accuracy for fast and accurate tracking ability. The 360° endless rotation and -10° ~190° tilt travel makes tracking the object passing directly beneath the dome. Maximum 256 preset points can be programmed for precise location of target areas, and you can also define 8 sequence, 4 auto-pan and 1 cruise routes for the camera to operate automatically.

### Day/Night Features

IR cut filter removable ensures 24 hours operation (18x MODEL/23x MODEL/35x MODEL)

### Low-Light Application

Digital Slow Shutter and Electronic Shutter functions are provided for clear and high quality image. The minimum illumination is 0.01 Lux.

### **Perfect Contrast Solution for High Image Quality**

Wide Dynamic Range function is a salient features incorporated to fit your needs (23x MODEL/35x MODEL)

### **Privacy Mask for Privacy Protection**

There is up to 24 privacy zones of camera view programmable. This is specially designed to avoid any intrusive monitoring at specific region.

### **Real-time MPEG-4 Compression**

With hardware MPEG-4 compression chip inside, the composite video inputs can be efficiently compressed into MPEG-4 bit stream without any delay. The ASIC base compression engine can support not only CIF, but also FULL D1 image resolution.

### **QoS Enabled Video Streaming**

For real-time video streaming requirements, the IP high speed dome implemented the 802.1Q features inside the SoC as the streaming engine to make sure the video streaming package is forwarded faster than normal TCP/UDP packet.

### **Automatic Frame Rate Control**

The IP high speed dome supports automatic/manual streaming frame rate control, especially for multiple clients concurrent access the same video stream in different network bandwidth.

### **Digital Time Code Embedded**

The “Digital Time Code Embedded” function is to embed the recording time in the MPEG bit stream. Therefore, each image frame has its respective time when it was recorded. It is very useful when users want to find the video at an exact time or between a certain time intervals.

### **Build-in LAN and WAN (Low Latency PPPoE Supported) Ports**

The IP high speed dome provides two RJ-45 connectors. One is WAN and the other is LAN. The WAN port connects to the internet and LAN port connects to the local network. Since the internet’s bandwidth is very critical, the WAN port is equipped with a low latency PPPoE (Point-to-Point over Ethernet) which has excellent transmission speed and



enables the IP high speed dome to connect to an ADSL or a cable modem.

### **DDNS Supported**

The IP high speed dome supports DDNS (Dynamic Domain Name Server), users can set the IP high speed dome at a virtual domain name (such as cam1.Taipei.xxx) at dynamic IP. Everyone can use the virtual domain name to view the video anywhere that has the access to the internet.

### **Build-in Hardware Motion Detection**

No more external motion sensors are required. Each IP high speed dome can be set up to 3 detection areas. By tuning the object size and sensitivity, it is very reliable to fit into your environment. Besides, hardware motion detection delivers better sensitivity and respond faster than software motion detection.

### **Bundle Powerful Surveillance Software**

To extend the capabilities of the IP high speed dome, a powerful surveillance program is included in the package and is totally free to use. Users can easily utilize the existing PC to be a digital video recorder. Schedule recording and manual recording keep every important image recorded in the local hard disk. Reliable and accurate motion detection with instant warning makes you responsive in every condition. Quick and simple search and playback function lets you easily find the images you want.

### **Software Development Kit Support**

The IP high speed dome can be integrated or controlled by user's application program through the Streaming Library or ActiveX control. With its high level programming interface, software developer's time and efforts to is highly reduced.

### **Dynamic Dome Configuration**

Flexible indoor/outdoor mountings. You may find a support package for getting familiar with IP high speed dome's mounting kits. Please visit our web site, and get the support package document TS-00004.

## 1.3 Safety Instructions

### **Don't use the power supply with other voltages**

This device is likely to be damaged or damage other equipments / personnel, if you use a power supply with different voltage than the one included with this device. All warranty of this product will be voided in the situations above.

### **Don't open the housing of the product**

### **Cleaning**

Disconnect this video product from the power supply before cleaning.

### **Attachments**

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

### **Water and Moisture**

Do not use this video product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

### **Don't use accessories not recommended by the manufacturer**

- **Only install this device and the power supply in a dry place protected from weather**
- **Servicing**

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

### **Damage Requiring service**

Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

1. When the power-supply cord or plug is damaged.
2. If liquid has been spilled, or objects have fallen into the video product.
3. If the video product has been exposed to rain or water directly.
4. If the video product does not operate normally by following the

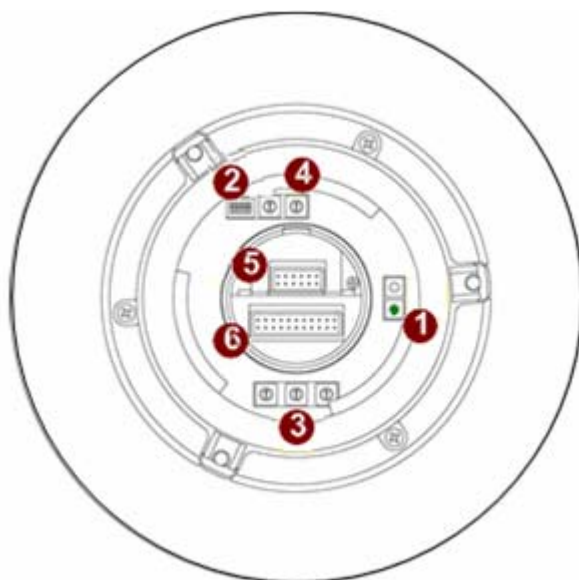
operating Instructions in this manual. Adjust only those controls that are covered by the instruction manual as an improper adjustment . Other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.

### **Safety Check**

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

## 1.4 Physical Description

### Outdoor High Speed Dome Bottom



#### 1. Reset Button

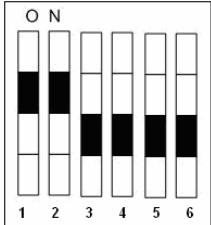
**Step 1:** Switch off IP device by disconnecting the power cable

**Step 2:** Press and continue to hold the Reset Button. Reconnect the power cable while continuing to hold the reset button.

**Step 3:** Keep holding the reset button depressed around 6 seconds, release the reset button. The unit will start up with factory default settings.

#### 2. Communication Switch Setting

The table below shows the function of each pin within the Communication Switch.

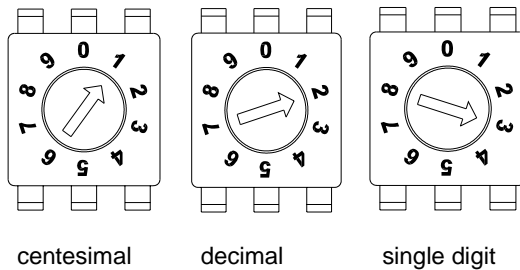
Communication Switch		Pin 1	RS-232 Setting (Reserved)
	Pin 2	Pin 3	Termination
	Pin 4	Pin 5	System Initialization (for upgrade)
	Pin 6	Pin 6	Reserved

RS-232 is reserved for internal use only; The Pin 3 and Pin 4, they are used for termination and Link Lock adjustment respectively.

The Pin 5 is mainly used for return to factory default of camera setting.

### 3. Dome ID Setting

Use the switch to change your speed dome ID by turning the arrow to the desired number respectively. For instance, if the speed dome ID is 123, the ID switch should be set as below:



**NOTE:** If controlling through an ACTi decoder via analog means such as a keyboard or DVR, no two speed domes should be given the same ID or communication conflict may occur. When controlled only through Ethernet and software (without the use of an ACTi hardware decoder), the dome ID setting may be neglected.



**NOTE:** The number “0” should locate upwards as shown in above diagram for correct switch definition.

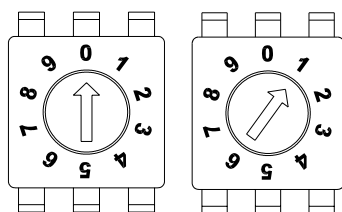
### 4. D

#### ome Control Protocol

Protocol is a specific set of rules, procedures used for data communications. Basing on the protocol of your management software that you are going to use. Use the switch to set your dome control protocol and the baud rate. Refer to table below and turn the arrow to choose a protocol for your speed dome.

Switch No.	Protocol	Baud Rate
01	Pelco D	2400
02	Pelco P	4800
07	DSCP	9600
11	Pelco D	4800
12	Pelco D	9600
13	Pelco P	2400
14	Pelco P	9600

Select protocol: Pelco D, with switch no. 01 and baud rate 2400, for instance, the ID switch should be set as below:

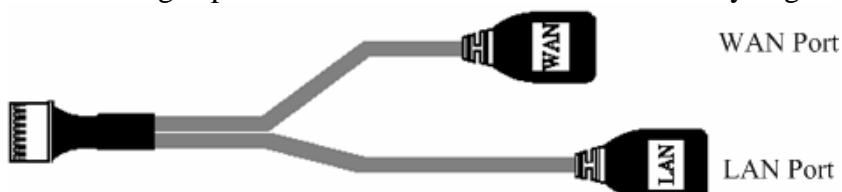


decimal

single digit

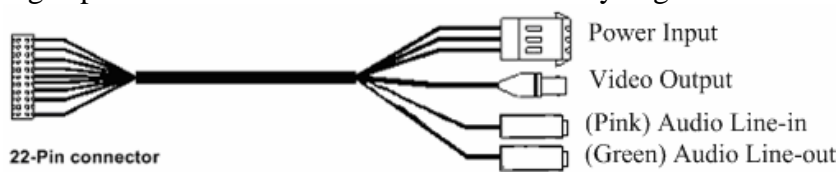
## 5. 16 Pin Connector for LAN/WAN

The LAN/WAN cable (shown as the figure below) is shipped with IP high speed dome. Please find it in the accessory bag.

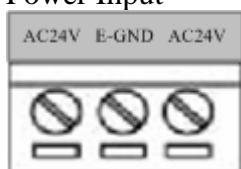


## 6. 22 Pin Connector

A 50cm data cable (shown as the figure below) is shipped with IP high speed dome. Please find it in the accessory bag.



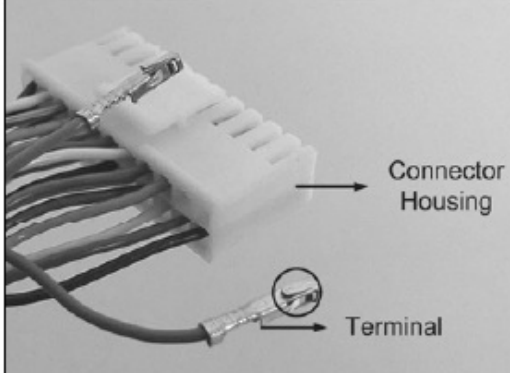
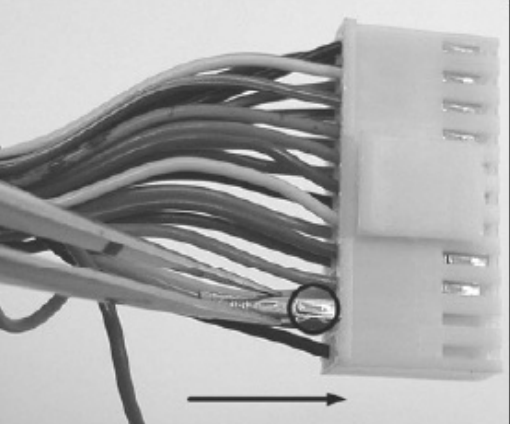
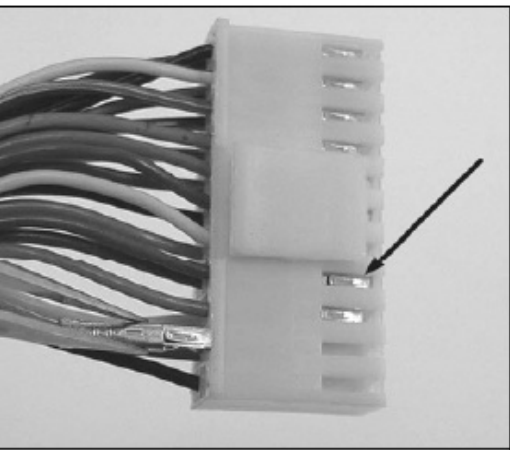
Power Input



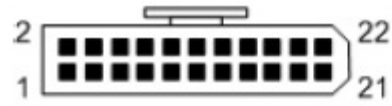
PIN	NAME	DESCRIPTION
1	AC24V	AC 24V of Power Input
2	E-GND	E-Ground Pin of Power Input
3	AC24V	AC 24V of Power Input

## 7. Cable Wiring

Users may need to do cable wiring when connecting alarm input and output devices. The table follows will illustrate the way to wire cords into the connector housing(shown in the figures below).

	
<p>Insert the terminal into the pin holes on the connector housing, with the hook outward, as indicated in the figure.</p>	
<p>To unlock the terminal, press the hook, as indicated in the figure, with a proper tool and pull it out gently.</p>	

The alarm pins are serviceable for connecting alarm input and output devices, such as alarm sensors, sirens or flashing light with the surveillance system. The table shown as follows lists the definition of alarm pins on the 22-pin connector.



Pin	Definition
2	ALM NC
4	ALM NO
6	ALM COM
11	ISOG
12	ALM-1
13	ALM-3
14	ALM-2
15	ALM-4
16	ALM-5
17	ALM-6
18	ALM-7

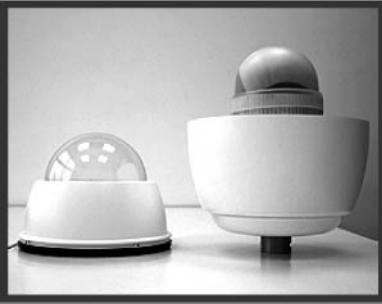
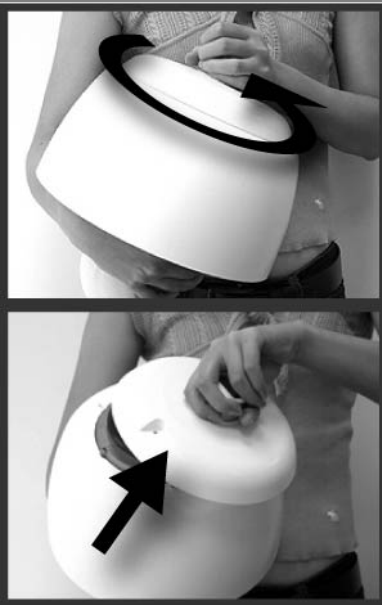






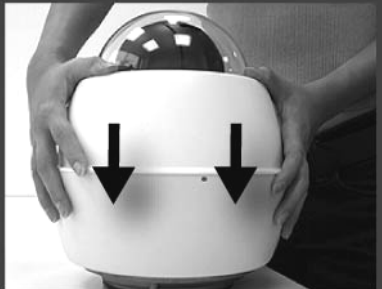
## 1.5 IP High Speed Dome Setups



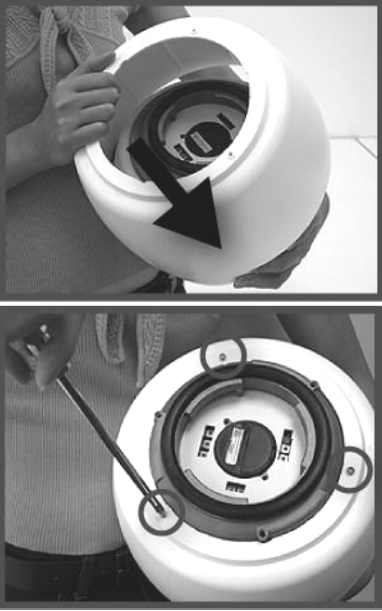
Before installing or connecting the speed dome camera, please refer to this section and complete preparation, switch setting and communication switch settings.

### 1.5.1: Preparations for Dome Setups

The section will illustrate the speed dome housing installation procedure of the outdoor speed dome equipped with sunshield. Please follow the steps below to complete speed dome housing installation.

<p><b>STEP 1</b></p> <p>Unpack the dome package and take out the dome body.</p>	 A black and white photograph showing two speed dome cameras on a flat surface. The camera on the left is smaller and has a clear dome lens. The camera on the right is larger and has a white, rounded body with a sunshield on top.
<p><b>STEP 2</b></p> <p>Rotate the top holder and take it off from the dome body.</p>	 Two black and white photographs showing a person's hands removing the top holder from the dome body. The top image shows the person rotating the top holder, with a curved arrow indicating the direction of rotation. The bottom image shows the person lifting the top holder off the dome body, with a straight arrow pointing upwards.

<p><b>STEP 3</b></p> <p>Remove the 3 screws on the bottom of the sunshield. Then take off the sunshield from the dome body.</p>	
<p><b>STEP 4</b></p> <p>Set the dome on a flat table to keep it stable and then remove the protective cover and PE cloth.</p>	
<p><b>STEP 5</b></p> <p>Attach the dome cover to the dome body. Before doing that, apply some lubricant on the dome cover's water-proof rubber to make the installation process smoother.</p>	
<p>Note that the tiny protrusion on the dome cover must align with one of the four holes on the dome body.</p>	
<p><b>STEP 6</b></p> <p>Assemble the dome cover to the dome body by pressing the cover gently downward to the dome body with two hands on the side of the cover.</p>	

<p>DO NOT press the cover as shown in the figure; this might cause damage to the dome body.</p>	
<p><b>STEP 7</b> Screw the dome cover and body together.</p>	
<p><b>STEP 8</b> Assemble the sunshield to the dome body and fix it with three screws.</p>	
<p><b>STEP 9</b> Set the switches located on the bottom of the dome body. Refer to section <a href="#">3.2 Dome Setups</a> for detailed information about various switch setting.</p>	

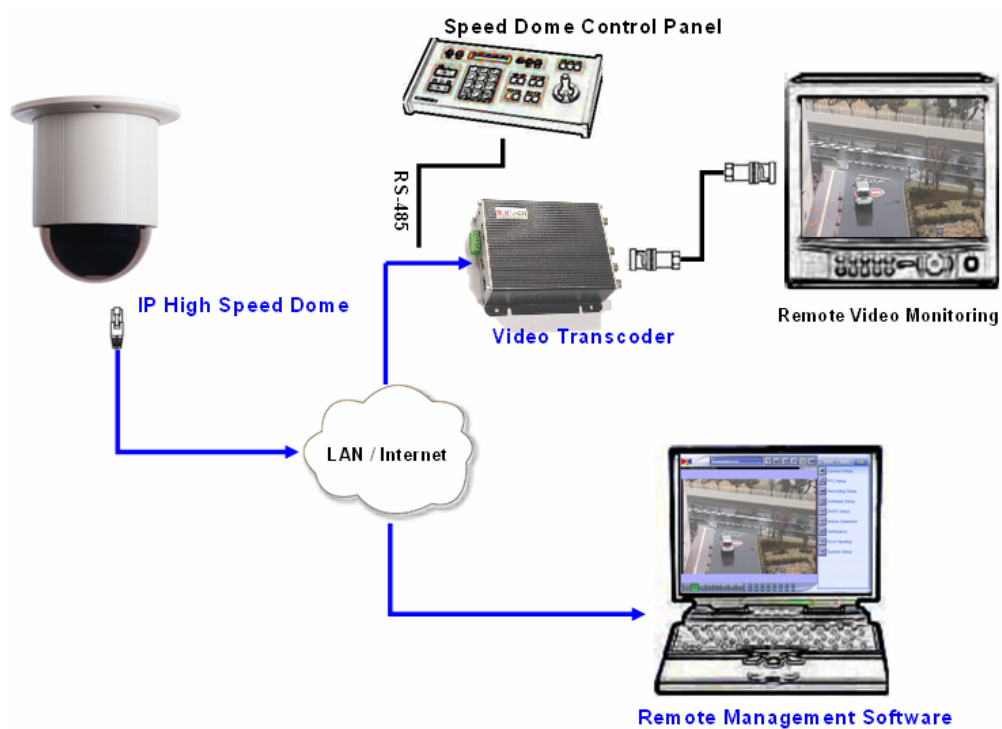
## 1.5.2: Dome Setups

Before connecting the speed dome camera to other devices of CCTV system, please

complete the speed dome ID and communication switch settings. These switches are located on the bottom of the speed dome camera (refer to section 1.4 Physical Description).

## 1.6 Basic Connections

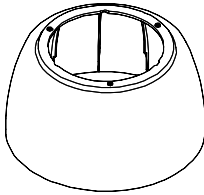


Follow the procedures below to connect the IP high speed dome to the respective apparatuses.



## Appendix A: Speed Dome Installation

Basing on user's installation environments, the dome can be installed on ceiling, on wall or on pole. In the following section, various outdoor speed dome installation accessories, installation methods and installation procedures will be described in detail.

### A-1: Optional Accessories

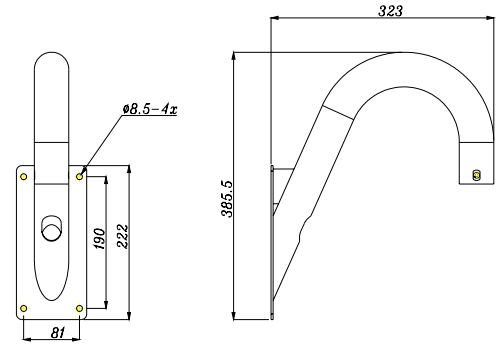
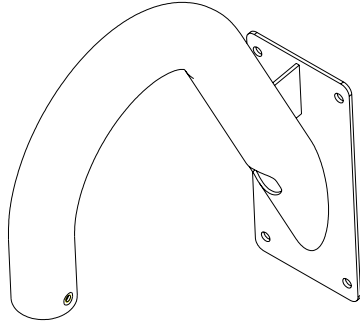
<b>Sunshield</b>	
White Color, Height: 135.5 mm (5.3 inches); Diameter: 261.6 mm (10.3 inches); 0.3 kg (0.7 lbs)	
	
<b>Vandal Proof(Transparent) /PMMA (Transparent)/Smoke Cover</b>	
Diameter: 152mm (6 inches)	
	
<b>Security Screw Set (equipped with Vandal Proof Cover)</b>	
	

## Mounting Accessories

### Gooseneck Tube

White/Iron; 298×385 mm (11.73×15.56 inches) ; 2.1 kg (4.6 lbs)

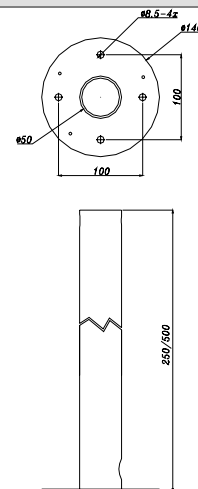
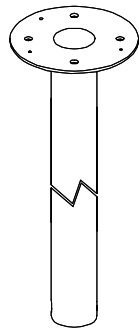
Supplied with rubber washer-8×1, pendant tube washer×1, spring washer-8×1 and waterproof rubber×1, M8\*12 screw×1.



### Straight Tube

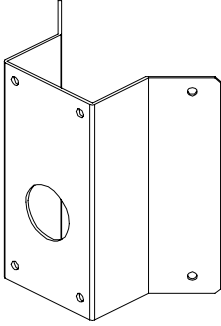
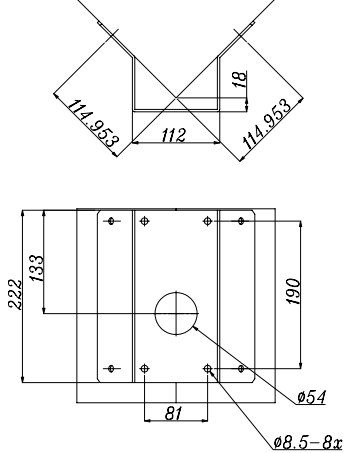
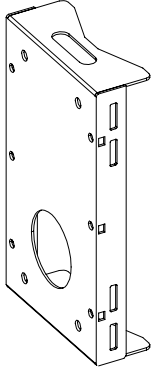
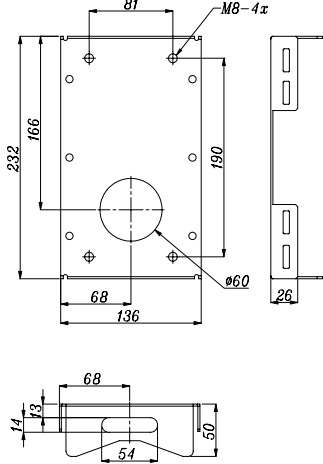
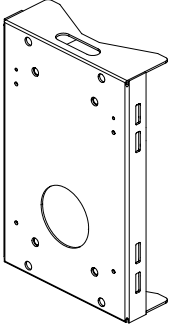
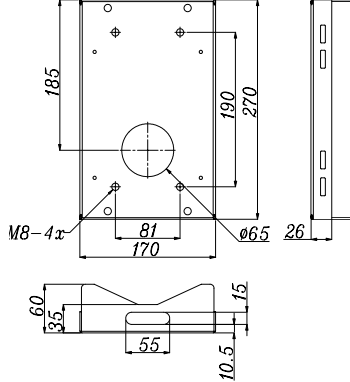
White/Iron; Height: 250/500 mm (9.8/19.7 inches); Diameter: 50 mm (2 inches)

1 kg (2.2 lbs) / 1.8 kg (4 lbs). Supplied with rubber washer-8×1, pendant tube washer×1, spring washer-8×1 and waterproof rubber×1, M8\*12 screw×1.



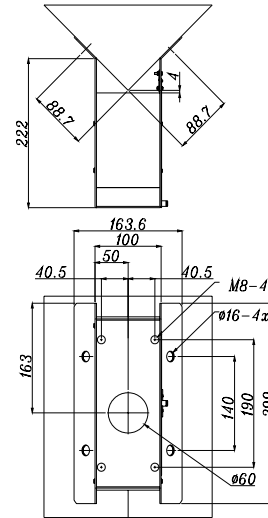
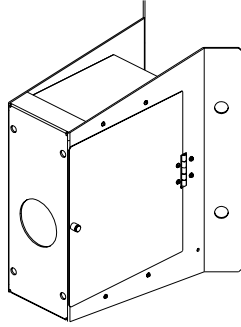
### Corner Standard Mounting Plate

White; 222(L)×204(W)×117(D) mm (8.7×8×4.6 inches); 2 kg (4.4 lbs). Supplied with washer-8×4, spring washer×4, M8\*20 screw×4, M8 nut×4.

	
<p><b>Pole Thin Direct Mounting</b></p> <p>White/Ivory; 232(L)×136(W)×60(D) mm (9.1×5.4×2.4 inches); Diameter: 112~140 mm (4.4~5.5 inches); 0.7 kg (1.6 lbs). Supplied with stainless steel straps×4, M8*16 screw×4, washer×4.</p>	
	
<p><b>Pole Wide Direct Mounting</b></p> <p>White/Ivory; 270(L)×170(W)×60(D) mm (10.6×6.7×2.4 inches); Diameter: 112~130 mm (4.4~5 inches); 1 kg (2.2 lbs). Supplied with stainless steel straps×4, M8*16 screw×4, washer×4, spring washer×4</p>	
	

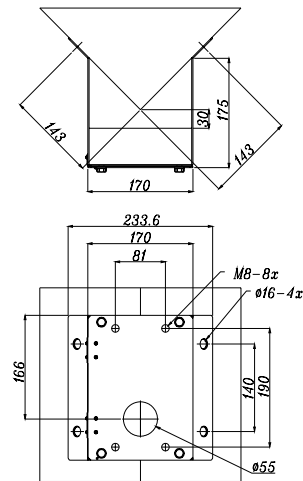
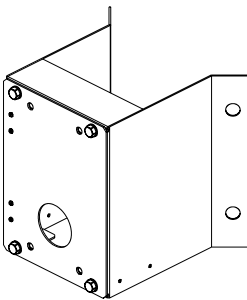
### Corner Thin Box

White/Ivory, 300(L)×164(W)×222(D) mm (11.8×6.5×8.7 inches); 3 kg (6.7 lbs); Supplied with washer×4, M8\*16 screw×4 and spring washer×4.



### Corner Wide Box

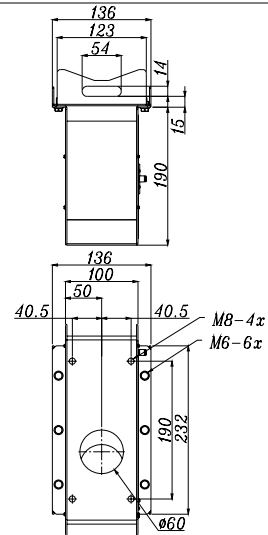
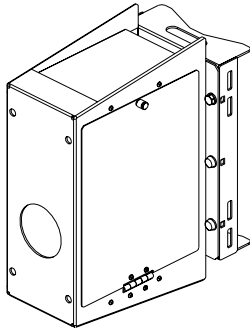
White/Ivory; 232(L)×234(W)×210(D) mm (9.1×9.2×8.3 inches); 2.7 kg (6 lbs); Supplied with washer×4, M8\*16 screw×4 and spring washer×4.



### Pole Thin Box

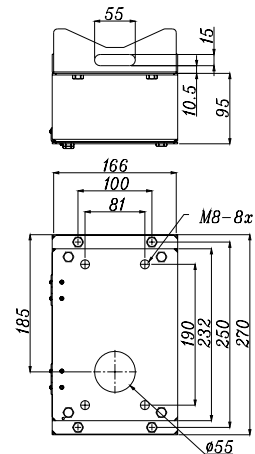
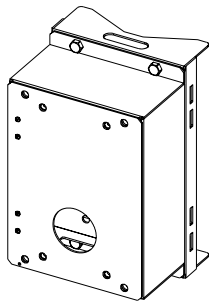
White/Ivory; 291(L)×136(W)×245(D) mm (11.5×5.3×9.5 inches); 3.1 kg (6.9 lbs); Supplied with M8\*16 screw×4, washer×4, spring washer×4, stainless steel straps×4.





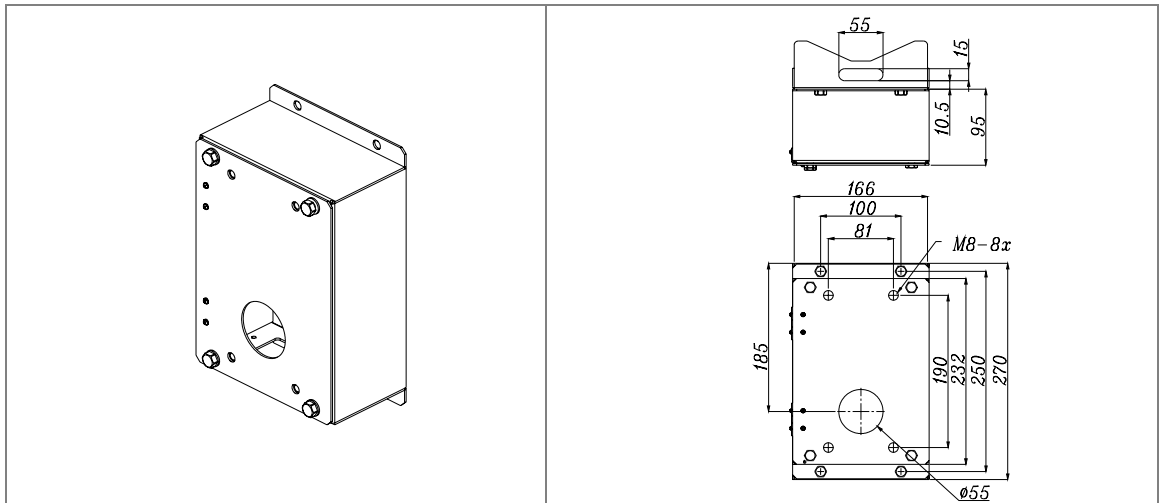
### Pole Wide Box

White/Ivory, 270(L)×166(W)×155(D) mm (10.6×6.5×6.1 inches); 3.2 kg (7.1 lbs); Supplied with M8\*16 screw×4, washer×4, spring washer×4, stainless steel straps×4.



## Wall Box Mounting

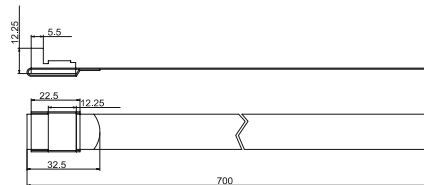
Ivory, 270(L)×166(W)×95(D) (10.6×6.5×3.7 inches); 2.2 kg (4.84 lbs); Supplied with M8\*16 screw×4, washer×4, spring washer×4



### Stainless Steel Straps

For fixing Pole Direct Mounting/ Pole Box on the pole.

Width: 0.63"; 0.02 kg (0.04 lbs)



### Stainless Strap Cutter

For tension, cut and crimp stainless steel straps. 1.4 kg (3.1 lbs)

Suitable for straps width: 1/2", 5/8", 3/4"



## Other Application Accessories

### Repeater/Converter

D77R1: RS-485/RS232 Converter

D77R2: RS232 between RS-485/RS-442

D77R3: Bi-phase to RS-485/RS-422



D77R1



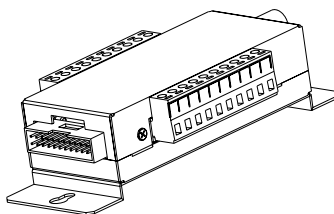
D77R2



D77R3

#### Connector Box (Indoor Application)

Recommended for wiring indoor dome alarm cables. White Color. 92×42 mm (3.7×1.7 inches); 0.13 kg (0.3 lbs); Supplied with cable×1, bracket×1 and M3\*6 screw×2.



#### Power Box

White; 186.5×147 mm (7.3×5.8 inches); 2.6 kg (5.8 lbs)

P1030 (Input: 110~115VAC/Output: 24VAC 72VA)

P2030 (Input: 220~230VAC/Output: 24VAC 72VA)



#### Power Adapter

77H07-A1015 (Input: 100~115VAC/Output: 24VAC 36VA)

77H07-A2015 (Input: 220~230VAC/Output: 24VAC 36VA)

77H07-A1030 (Input: 100~115VAC/ Output: 24VAC 72VA)

77H07-A2030 (Input: 220~230VAC/ Output: 24VAC 72VA)

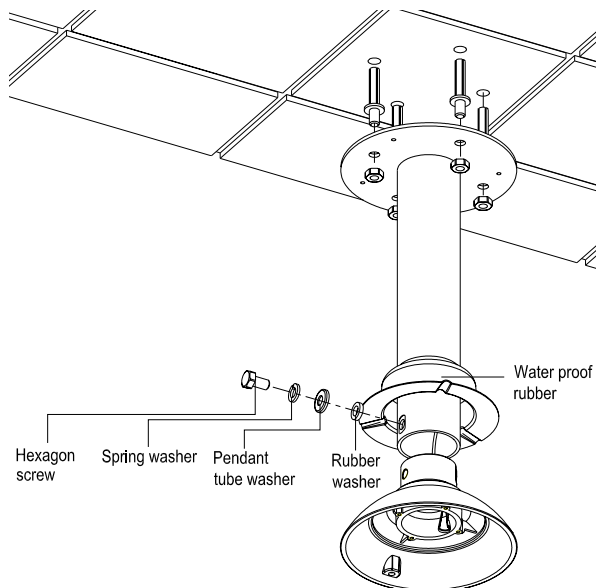


## A-2: Ceiling Mount (Straight Tube)

Follow the steps to mount the speed dome camera with the straight tube.

- (1) Ensure that the ceiling can support the weight of the speed dome camera and straight tube.
- (2) Make a cable entry hole on the ceiling.
- (3) Fix the suspension bracket to the ceiling.
- (4) Thread the cables through the straight tube and the top holder and connect them to the speed dome camera.
- (5) Fix the top holder to the straight tube using the screws and washers.
- (6) Attach the speed dome camera to top holder and fix them with the screw.

### Ceiling Mount: Straight Tube + Waterproof Rubber

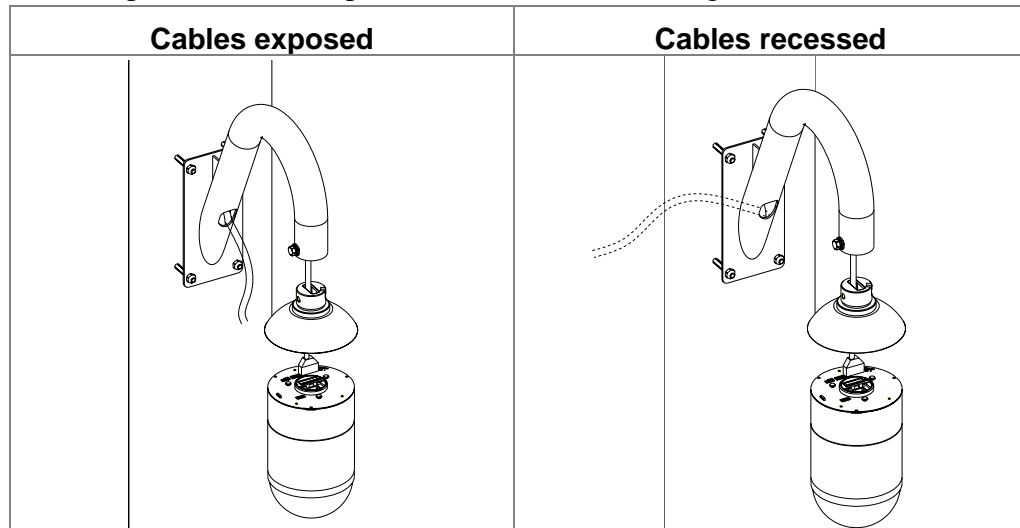


## A-3: Wall Mount

### A-3-1 Wall Mounting with Gooseneck Tube

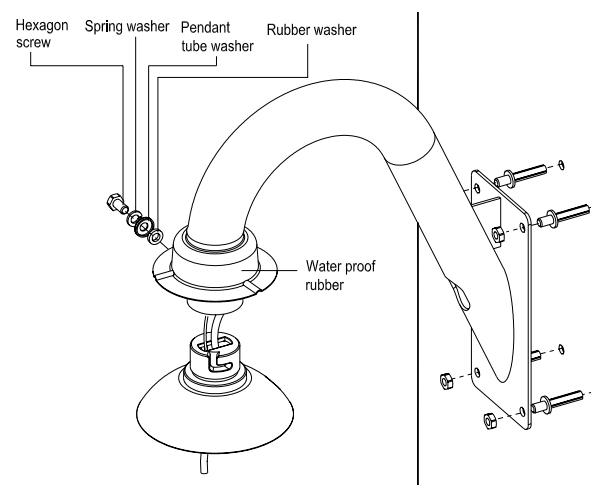
The following figures show how cables run through the tube in different ways.

Follow the steps to mount the speed dome camera with the gooseneck tube.



- (1) Make a cable entry hole on the wall to recess the cables. Otherwise, cables can be threaded through the cable entry hole on the tube.
- (2) Fix the suspension bracket to the wall.
- (3) Thread the cables through the gooseneck tube and the top holder and connect them to the speed dome camera.
- (4) Fix the top holder to gooseneck tube using the equipped screws and washers.
- (5) Attach the speed dome camera to the top holder and fix them with the screw.

#### Wall Mount: Gooseneck Tube + Waterproof Rubber

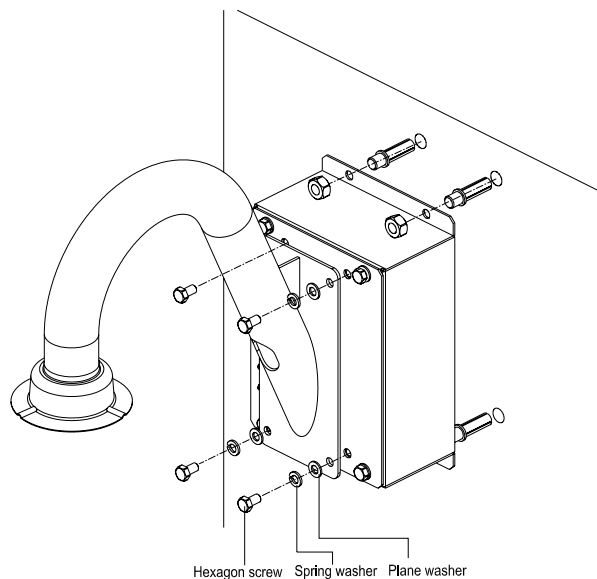


## A-3-2 Wall Box Mounting

Follow the steps to mount the outdoor speed dome camera with the wall box and gooseneck tube.

- (1) Fix the wall box to wall.
- (2) Fasten the gooseneck tube on the wall box.
- (3) Thread the cables through the gooseneck tube and the top holder and connect them to the speed dome.
- (4) For installation of the cables, top holder and the camera unit, refer to section **A-3-1** as the steps are the same as for gooseneck mounting.

Wall Box Mount: Wall Box Mount + Gooseneck Tube + Waterproof Rubber



## A-4: Corner Mount

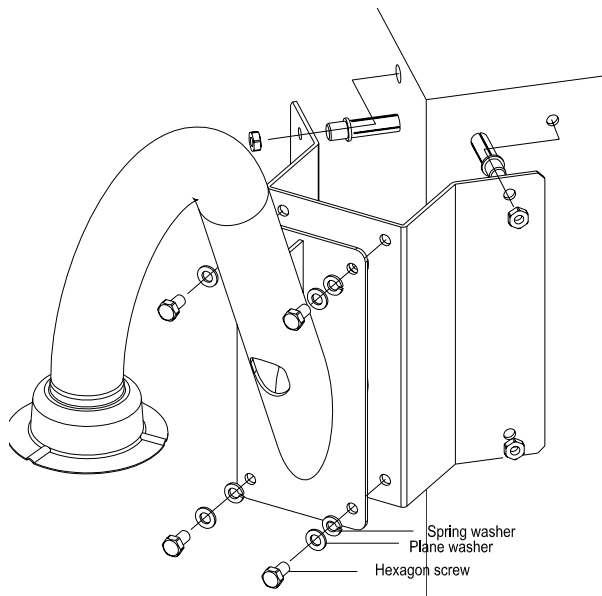
### A-4-1 Corner Standard Mounting Plate

With the corner mounting plate and gooseneck, the dome can be mounted on wall. There are various types of corner mounting accessories with different width.

- 1) Make a cable entry hole on the wall to recess the cables. Otherwise, cables can be threaded through the cable entry hole on the tube
- 2) Fix the suspension bracket on the wall

- 3) Attache the gooseneck tube to the firmly fixed bracket
- 4) For installation of the cables, top holder and the speed dome camera unit, refer to section **A-3-1** as the steps are the same as for gooseneck mounting.

**Corner Wall Mount: Corner Standard Mounting Plate + Gooseneck Tube + Waterproof Rubber**

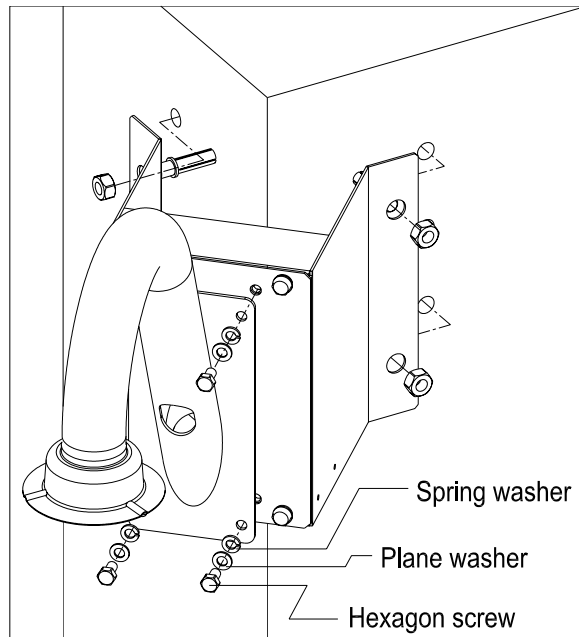


#### **A-4-2 Corner Thin/Wide Box Mounting**

The thin/wide corner box is designed to be installed with a gooseneck tube. Follow the steps to mount the dome camera with the corner box and gooseneck tube.

- 1) Make a cable entry hole on the wall to recess the cables. Otherwise, cables can be threaded through the cable entry hole on the tube
- 2) Fix the suspension bracket on the wall
- 3) Attache the gooseneck tube to the firmly fixed bracket
- 4) For installation of the cables, top holder and the speed dome camera unit, refer to section **A-3-1** as the steps are the same as for gooseneck mounting.

#### Corner Box Mounting: Corner Thin/Wide Box + Gooseneck Tube + Waterproof Rubber



## A-5: Pole Mount

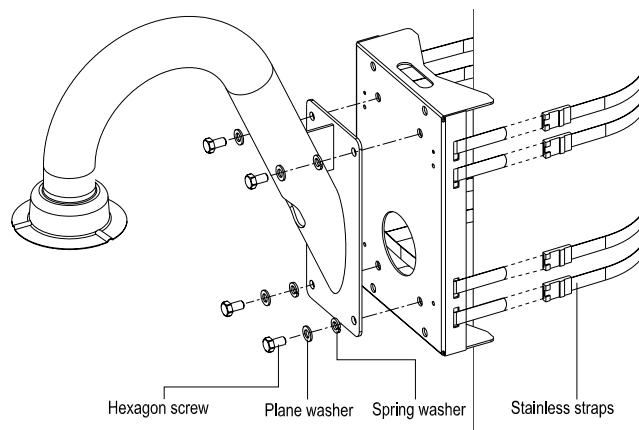
### A-5-1 Pole Thin/Wide Direct Mounting

The dome can be installed on a pole with a thin or wide pole mounting accessory and a gooseneck.

- 1) Fasten the suspension mounting plate on a pole with equipped stainless straps
- 2) Fix the gooseneck tube on the pole mounting plate
- 3) Thread the cables through the gooseneck tube and the top holder and connect them to the speed dome camera
- 4) For installation of the cables, top holder and the speed dome camera unit, refer to section **A-3-1** as the steps are the same as for gooseneck mounting.



## Pole Direct Mount: Pole Thin/Wide Direct Mounting +Gooseneck Tube + Waterproof Rubber

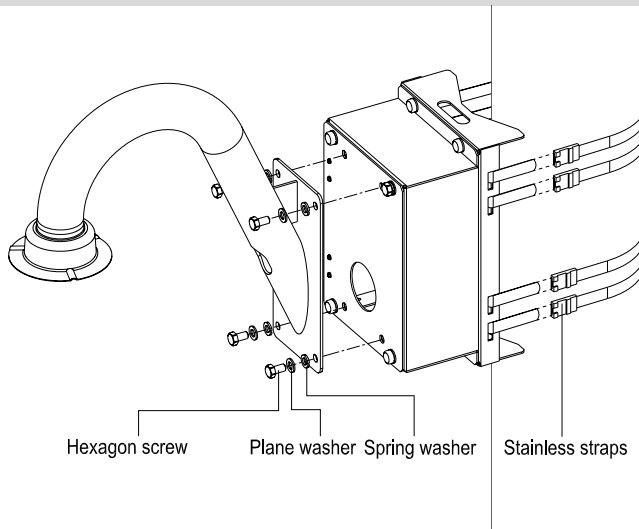


### A-5-2 Pole Thin/Wide Box Mounting

Follow the steps to mount the speed dome camera with the pole box and gooseneck tube.

- 1) Fasten the pole box on a pole with equipped stainless straps
- 2) Fix the gooseneck tube to the pole box
- 3) Thread the cables through the gooseneck tube and the top holder and connect them to the speed dome camera
- 4) Fix the top holder to the gooseneck tube using the screws and washers.
- 5) Attache the speed dome camera to the top holder and fix them with the screw.

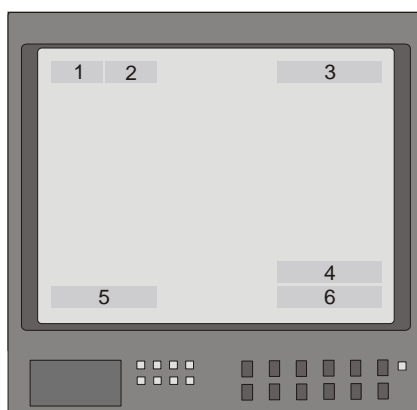
## Pole Box Mount: Pole Thin/Wide Box + Gooseneck Tube + Waterproof Rubber



## Appendix B: OSD Menu Notes

### B-1: OSD Display Format

The information shown on the screen are described in terms of OSD display, position and function description in the table below.



Position	Function	OSD Display	Description
1	Focus Modes	A	Auto Focus Mode
		M	Manual Focus Mode
2	Backlight	X	Back Light Compensation OFF
		B	Back Light Compensation ON
3	Alarm	ALARM	Alarm Message
4	Zoom Ratio	×1	Present Zoom Ratio (Optical Zoom(Digital Zoom))
5	Title	<ul style="list-style-type: none"><li>Maximum 20 characters for each title.</li><li>16 sets of title are available.</li></ul>	
6	Camera ID	Show the camera ID	

### B-2: OSD Setup Menu

The OSD setup menu structure of 18x model and 23x model/35x model are listed separately in the following section. The star symbol indicates the factory default.

For detailed function description, please see section **B-3 Configuration Menu**

➤ **18x MODEL**

Item	Layer 1	Layer 2	Layer 3	Default
<b>DEFAULT CAMERA</b>	<ON>, <OFF>			ON
<b>BACKLIGHT</b>	<ON>, <OFF>			OFF
<b>FOCUS</b>	AUTO	AF Mode <Normal>, <Interval>, <Zoom Trigger>		Normal
	MANUAL	Focus Manual Speed <01>~<08>		
<b>AE MODE</b>	AUTO	Exposure Comp. <OFF>, <1>~<15>		OFF
	BRIGHT	Bright <0> ~ <31>		
	SHUTTER	Shutter Speed <1> ~ <1/10000> Sec.		
	GAIN	Gain <-3> ~ <28>dB		
	IRIS	Iris <Close>, <F1.6> ~ <F28>		
<b>WBC MODE</b>	AUTO (Auto White Balance)			
	INDOOR			
	OUTDOOR			
	ATW (Auto-tracing WBC)			
	MANUAL	R Gain <000> ~ <128>		
		B Gain <000> ~ <128>		
<b>ID DISPLAY</b>	<ON>, <OFF>			ON
<b>SETUP MENU 1</b>	FLIP	<IMAGE>, <M.E.>, <OFF>		OFF
	ZOOM SPEED	<1> ~ <8>		8
	SPEED BY ZOOM	<ON>, <OFF>		OFF
	AUTO CALI.	<ON>, <OFF>		OFF
	DIGITAL ZOOM	<ON>, <OFF>		ON
	SLOW SHUTTER	<ON>, <OFF>		OFF
	ANGLE ADJUSTER	ADJUST MIN ANGLE		00
		ADJUST MAX ANGLE		90
		RESET		
	RESET	<YES>		
	EXIT			
<b>SETUP MENU 2</b>	APERTURE	<01> ~ <16>		01
	MASK DISPLAY	<FIRST>, <LAST>		First
<b>TITLE DISPLAY</b>	<ON>, <OFF>			OFF
<b>TITLE</b>	<01> ~ <16>			01

Item	Layer 1	Layer 2	Layer 3	Default
<b>SETTING</b>				
<b>ALARM SETTING</b>	ALARM PIN	<1> ~ <8>		1
	ALARM SWITCH	<ON>, <OFF>		OFF
	ALARM TYPE	<N.O.> (Normal Open), <N.C.> (Normal Close)		N.C.
	ALARM ACTION	PRESET		
		SEQUENCE		
		AUTOPAN		
		CRUISE		
	PRESET POINT SEQUENCE LINE AUTOPAN LINE CRUISE LINE	<001> ~ <256> <1> ~ <8> <1> ~ <4> <1>		001
	DWELL TIME	<001> ~ <127> Sec., <ALWAYS>		ALWAYS
	EXIT	YES		
<b>HOME SETTING</b>	HOME FUNC.	<ON>, <OFF>		OFF
	SELECT MODE	PRESET		
		SEQUENCE		
		AUTOPAN		
		CRUISE		
	PRESET POINT SEQUENCE LINE AUTOPAN LINE CRUISE LINE	<001> ~ <256> <1> ~ <8> <1> ~ <4> <1>		001
	RETURN TIME	<001> ~ <128> Min.		001
	GO	ENTER		
	EXIT			
<b>SEQUENCE</b>	SEQUENCE LINE	<1> ~ <8>		1
	SEQUENCE POINT	<01> ~ <32>		01
	PRESET POS.	<001> ~ <256>		001
	SPEED	<01> ~ <15>		01
	DWELL TIME	<000> ~ <127> Sec.		000
	RUN SEQUENCE			
	EXIT			

Item	Layer 1	Layer 2	Layer 3	Default
<b>AUTOPAN</b>	AUTOPAN LINE	<1> ~ <4>		1
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		Right
	SPEED	<01> ~ <04>		01
	RUN AUTOPAN			
	EXIT			
<b>CRUISE</b>	RECORD START			
	RECORD END			
	RUN CRUISE			
	EXIT			
<b>IR FUNCTION</b> (F/U model only)	<AUTO>, <ON>			Auto
<b>ALARM DETECT</b>	DETECT SWITCH	<ON>, <OFF>		OFF
	DETECT MODE	<INT. FOCUS>, <FIX FOCUS>, <INT. AE>, <FIX AE>		Int. Focus
	EXIT			
<b>PRIVACY</b>	PRIVACY SWITCH	<ON>, <OFF>		OFF
	TRANSPARENCY	<ON>, <OFF>		OFF
	COLOR	<BLACK>, <HEAVY GRAY>, <LIGHT GRAY>, <WHITE>, <RED>, <GREEN>, <BLUE>, <CYAN>, <YELLOW>, <MAGENTA>		Black
	SET MASK	<01> ~ <24>	H CENTER <L>, <R>	
			V CENTER <D>, <U>	
			H SIZE <00> ~ <80>	
			V SIZE <00> ~ <60>	
	EXIT	YES		
<b>TIME</b>	TIME DISPLAY	<ON>, <OFF>		OFF
	SET YEAR			
	SET MONTH			
	SET DAY			
	SET HOUR			

Item	Layer 1	Layer 2	Layer 3	Default
	SET MINUTE			
	EXIT+SAVE			
EXIT OSD	YES			

➤ **23x MODEL / 35x MODEL**

Item	Layer 1	Layer 2	Layer 3	Default
<b>DEFAULT CAMERA</b>	<ON>, <OFF>			ON
<b>BACKLIGHT</b>	ON	BLC Level <000> ~ <100>		
	OFF			
<b>FOCUS</b>	AUTO	Focus Length <1cm>, <10cm>, <30cm> <1m>		10 cm
	MANUAL	<01> ~ <08>		
<b>APERTURE</b>	AUTO			
	MANUAL	H APERTURE <00> ~ <31>		
		V APERTURE <00> ~ <31>		
<b>AE MODE</b>	AUTO	IRIS OFFSET <00> ~ <99>		50
	SHUTTER	SHUTTER SPEED <1/2> ~ <1/30000>		
	IRIS	IRIS <00> ~ <09>		
	AGC	AGC <00> ~ <05>		
<b>WBC MODE</b>	AUTO			
	MANUAL	R Gain <00> ~ <99>		
		B Gain <00> ~ <99>		
<b>ID DISPLAY</b>	<ON>, <OFF>			ON
<b>SETUP MENU</b>	FLIP	<IMAGE>(K model only), <M.E.>, <OFF>		OFF
	ZOOM SPEED	<FAST>, <SLOW>		Slow
	SPEED BY ZOOM	<ON>, <OFF>		OFF
	AUTO CALI.	<ON>, <OFF>		OFF
	DIGITAL ZOOM	<1> ~ <12>, <OFF>		OFF
	SLOW SHUTTER (K model only)	<1/2> ~ <1/60> Sec. (NTSC) <1/1.5> ~ <1/50> Sec. (PAL)		1/30
	ANGLE ADJUSTER	ADJUST MIN ANGLE		00
		ADJUST MAX ANGLE		90
		RESET		

Item	Layer 1	Layer 2	Layer 3	Default
	RESET	YES		
	EXIT			
TITLE DISPLAY	<ON>, <OFF>			OFF
TITLE SETTING	<01> ~ <16>			01
ALARM SETTNG	ALARM PIN	<1> ~ <8>		1
	ALARM SWITCH	<ON>, <OFF>		OFF
	ALARM TYPE	<N.O.>, <N.C.>		N.C.
	ALARM ACTION	PRESET		
		SEQUENCE		
		AUTOPAN		
		CRUISE		
	PRESET POINT	<001> ~ <256>		001
	SEQUENCE LINE	<1> ~ <8>		
	AUTOPAN LINE	<1> ~ <4>		
	CRUISE LINE	<1>		
DWELL TIME	<001> ~ <127> Sec., ALWAYS		ALWAYS	
EXIT	YES			
HOME SETTING	HOME FUNC.	<ON>, <OFF>		OFF
	SELECT MODE	PRESET		
		SEQUENCE		
		AUTOPAN		
		CRUISE		
	PRESET POINT	<001> ~ <256>		001
	SEQUENCE LINE	<1> ~ <8>		
	AUTOPAN LINE	<1> ~ <4>		
	CRUISE LINE	<1>		
RETURN TIME	<001> ~ <128> Min.		001	
GO	ENTER			
EXIT	YES			
SEQUENCE	SEQUENCE LINE	<1> ~ <8>		1
	SEQUENCE POINT	<01> ~ <32>		01
	PRESET POS.	<001> ~ <255>, <END>		001

Item	Layer 1	Layer 2	Layer 3	Default
	SPEED	<01> ~ <15>		01
	DWELL TIME	<000> ~ <127> Sec.		000
	RUN SEQUENCE	ENTER		
	EXIT			
<b>AUTOPAN</b>	AUTOPAN LINE	<1> ~ <4>		1
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		Right
	SPEED	<01> ~ <04>		01
	RUN AUTOPAN	ENTER		
	EXIT			
<b>CRUISE</b>	RECORD START			
	RECORD END			
	RUN CRUISE			
	EXIT			
<b>IR FUNCTION</b> (K model only)	AUTO	THRESHOLD	<LOW>, <MID>, <HI>	LOW
		IR COLOR	<B/W>, <COLOR>	B/W
		EXIT		
	ON			
<b>WDR SETTING</b> (K model only)	WDR SWITCH	<ON>, <OFF>		OFF
	WDR FUNCTION	AUTO		
		MANUAL	RATIO LEVEL <000>~<128>	
			SHUTTER LEVEL <000>~<128>	
			IRIS OFFSET <000>~<128>	
	EXIT			
<b>PRIVACY</b> (K model only)	PRIVACY SWITCH	<ON>, <OFF>		OFF
	SHADE	<BLACK>, <WHITE>, <GRAY>		Gray
	SET MASK	<1> ~ <8>	H CENTER <000> ~ <256>	
			V CENTER <000> ~ <256>	
			H SIZE <000> ~ <127>	
			V SIZE <000> ~ <127>	
	MASK	<01> ~ <08>		01



Item	Layer 1	Layer 2	Layer 3	Default
	CLEAR+RESET			
	MASK DISPLAY	<FIRST>, <LAST>		First
	EXIT	YES		
TIME	TIME DISPLAY	<ON>, <OFF>		OFF
	SET YEAR			
	SET MONTH			
	SET DAY			
	SET HOUR			
	SET MINUTE			
	EXIT+SAVE			
EXIT OSD	YES			

### B-3: Configuration Menu

The detailed functions and parameter settings of your high speed dome can be set by the OSD (On Screen Display) menu with a control program. The functions in OSD menu are described in the following sections.

#### 18x MODEL

MAIN PAGE 1	
DEFAULT CAMERA	OFF
BACKLIGHT	OFF
FOCUS	AUTO
AE MODE	AUTO
WBC MODE	AUTO
ID DISPLAY	ON
SETUP MENU1	
SETUP MENU2	

#### 23x MODEL/35x MODEL

MAIN PAGE 1	
DEFAULT CAMERA	OFF
BACKLIGHT	OFF
FOCUS	AUTO
APERTURE	AUTO
AE MODE	AUTO
WBC MODE	AUTO
ID DISPLAY	ON
SETUP MENU	ENTER

#### B-3-1 DEFAULT CAMERA

The “DEFAULT CAMERA” is used to restore the camera settings (e.g. Backlight/Focus/AE//WBC/Aperture). Once any one of the items is modified, the setting will become <OFF> automatically. Select <ON> for this item to recall the mentioned camera parameters.



**NOTE:** On **18x MODEL**, the Aperture function is provided in “SETUP MENU2”, instead of “DEFAULT CAMERA”.

## B-3-2 BACKLIGHT

The Backlight compensation function prevents the center object from being too dark in surroundings where excessive light is behind the center object.

### ➤ 18x MODEL

Turn this item <ON>; the center object will be brightened in contrast to the edge of the picture (where a backlight would most likely be located).

### ➤ 23x MODEL / 35x MODEL

The Backlight Compensation Level ranges from 000 to 100.

BLC LEVEL	
LEVEL	20
EXIT	YES



**NOTE:** If this function is enabled, the WDR function (for **23x MODEL/35x MODEL** only) will be disabled automatically. For details, refer to section [B-3-19 WDR Setting](#).

## B-3-3 FOCUS

Automatically adjusts the focus position to maximize the high frequency content of the picture in a center measurement area, taking into consideration the high luminance and strong contrast components. The focus of the dome camera can be operated in two modes: Manual Focus mode and Auto Focus mode. Different settings for various models are described as follows.

### ➤ 18x MODEL

#### ◆ AUTO

The optimum focus is achieved by the internal digital circuit. There are 3 modes for users to select for different conditions.

**Normal AF (Auto Focus) Mode:** The dome will automatically adjust the focus of the picture.

**Zoom Trigger Mode:** When the zoom ratio is changed, the dome will automatically adjust focus again after a period of time (the preset value is

initially set for five seconds).

**Interval AF Mode:** The mode is used for AF movements carried out at particular intervals. If users pan/tilt the dome, the dome will focus automatically after a period of time. The initial value is five seconds.

◆ **MANUAL**

In this focus mode, users can adjust the lens focus manually.

➤ **23x MODEL / 35x MODEL**

◆ **AUTO**

The optimum focus is achieved by the internal digital circuit. Users can adjust the minimum auto focus range for some special conditions; the options are <1cm>, <10cm>, <30cm> and <1m>.

◆ **MANUAL**

In this focus mode, users can adjust the lens focus manually.

FOCUS LENGTH	
TURNING VALUE	10CM
EXIT	YES

### **B-3-4 APERTURE**

Sharpness is the subjective evaluation of detail in the picture. With this “APEATURE” function, users can adjust the enhancement of the edges of objects in the picture. When shooting text, this function may help by making them sharper and achieve a better image. There are 32 levels of adjustment, the options are <00> ~ <31>, <00> represents “no enhancement”.

◆ **AUTO**

The dome camera will assign a proper aperture value automatically for camera to achieve a better image.

◆ **MANUAL**

Select this item if you want to adjust aperture value manually. Higher value enhances the incident ray of camera.

APERTURE MENU	
H APERTURE	15
V APERTURE	15



**NOTE:** For **18x MODEL**, please refer to section **B-3-9** **SETUP MENU2** for information on Aperture function.

### B-3-5 AE MODE

The exposure is the amount of light received by the image sensor and is determined by how wide you open the lens diaphragm (iris adjustment), by how long you keep the sensor exposed (shutter speed), and other exposure parameters. With this item, users can define how the Auto Exposure (AE) function works.

#### ➤ **18x MODEL**

##### ◆ **AUTO**

In this mode, the camera's IRIS and AGC (Auto Gain Control) control circuits work together automatically to adjust the light exposure of image sensor in order to get consistent video output level. At this condition the shutter speed is fixed at 1/60 (NTSC) or 1/50(PAL). Users can offset the internal brightness reference level through auto Exposure Comp. to control the brightness of camera. The value of Exposure Comp. is selectable from <0> to <16> and the gain varies from -10.5 dB to 10.5 dB. Each step is 1.5 dB; the Exposure Comp. value <7> is equal to gain value 0 dB. The camera will not compensate brightness when the Exposure Comp. is set to <OFF>. The default setting is <OFF>.

##### ◆ **BRIGHT**

The brightness control function adjusts IRIS and AGC gain using an internal algorithm. The brightness is controlled by gain when the light condition is dark and by iris when the light condition is bright.

##### ◆ **SHUTTER**

With this option, the SHUTTER speed takes main control of the exposure, and both IRIS and AGC will function automatically in cooperation with shutter speed to achieve consistent exposure output.

◆ **GAIN**

The auto GAIN control function takes main control of exposure with priority over SHUTTER and IRIS. The internal circuit will function automatically to get consistent exposure.

◆ **IRIS**

With this option, the IRIS function adjust the exposure in higher property. SHUTTER speed and AGC circuit will function automatically in cooperating with IRIS to get consistent exposure output. The opening of a lens controls the amount of light reaching the surface of the selected device. By increasing the F-stop number (F/1.6, F/2, F/2.4, etc.), less light is permitted to pass.

➤ **23x MODEL / 35x MODEL**

◆ **AUTO**

In this mode, the camera's Shutter, IRIS and AGC control function work automatically to compensate the light exposure of image sensor for consistent video output level. IRIS OFF SET is used to set the level of IRIS variation.

◆ **SHUTTER**

With this option, the SHUTTER priority is higher than IRIS and AGC; IRIS and AGC circuit will function automatically in cooperating with SHUTTER to get consistent exposure.

◆ **IRIS**

With this option, the IRIS priority is higher than SHUTTER and AGC; SHUTTER and AGC circuit will function automatically in cooperating with IRIS to get consistent exposure. If the IRIS is modified manually, the action of exposure compensation depends on the AGC circuit.

◆ **AGC**

With this option, the AGC priority is higher than SHUTTER and IRIS; SHUTTER and IRIS circuit will function automatically in cooperating with AGC to get consistent exposure. If AGC is adjusted manually, the exposure compensation depends on the changing of IRIS.

### B-3-6 WBC MODE

A digital camera needs to find reference colour temperature, which is a way of measuring the quality of a light source, for calculating all the other colours. The unit for measuring this ratio is in degree Kelvin (K). You can select one of the White Balance Control modes according to the condition. The following table shows the colour temperature of some light sources.

Light Sources	Color Temperature in K
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

#### ➤ **18x MODEL**

##### ◆ **AUTO**

In this mode, white balance works within its colour temperature range. This mode computes the white balance value output using colour information from the entire screen. It outputs the proper value using the colour temperature radiating from a black subject based on a range of values from 3000K to 7500K.

##### ◆ **INDOOR**

3200K Base mode

##### ◆ **OUTDOOR**

5800K Base mode

##### ◆ **ATW**

Auto Tracing White Balance mode. The dome taking out the signals in a screen in the range from 2000K to 10000K.

##### ◆ **MANUAL**

In this mode, users can change the White Balance value manually; R gain and B gain are adjustable and range from 0 to 128.

WBC MENU		
R GAIN		50
B GAIN		50

➤ **23x MODEL / 35x MODEL**

◆ **AUTO**

In this mode, white balance works within its colour temperature range and calculates the best-fit white balance.

◆ **MANUAL**

In this mode, users can change the White Balance value manually; adjustable R gain and B gain range from 0 to 99.

WBC MENU		
R GAIN		50
B GAIN		50

### B-3-7 ID DISPLAY

Users are allowed to choose whether the dome ID will be displayed on monitor to identify the domes.

◆ **ON**

Display the ID address of the selected dome on the right bottom of the monitor screen.

◆ **OFF**

Hide the ID address of the selected dome.

### B-3-8 SETUP MENU

Users can adjust camera lens model parameters under SETUP MENUs. Depending on the model of dome cameras, the SETUP MENUs are different.

## 18x MODEL

SETUP MENU1		SETUP MENU2	
FLIP	ENTER	APERTURE	01
ZOOM SPEED	1	MASK DISPLAY	FIRST
SPEED BY ZOOM	OFF		
AUTO CALI.	OFF		
DIGITAL ZOOM	12		
SLOW SHUTTER	OFF		
ANGLE ADJUSTER	ENTER		
RESET	YES		
EXIT	YES		

### 23x MODEL

SETUP PAGE	
FLIP	ON
ZOOM SPEED	FAST
SPEED BY ZOOM	ON
AUTO CALI.	OFF
DIGITAL ZOOM	12
SLOW SHUTTER	1/2
ANGLE ADJUSTER	ENTER
RESET	YES
EXIT	YES

### 35x MODEL

SETUP MENU 1	
ZOOM SPEED	FAST
DIGITAL ZOOM	OFF
SLOW SHUTTER	OFF
IMAGE INVERSE	OFF
APERTURE	AUTO
STABILIZER	OFF
EXIT	YES

#### ◆ FLIP (IMAGE/ME/OFF)

User can track an object continuously when it passes through under dome camera with setting Flip to IMAGE (digital flip) or M.E. (mechanical flip).

FLIP SETTING	
FLIP	OFF
EXIT	YES

### IMAGE

IMAGE represents digital IMAGE FLIP, enables users to keep tracking object seamlessly and no delay occurs in comparing with mechanical flip.





**NOTE:** The Privacy Mask function will be automatically disabled if the Image Flip function is enabled, and “Masking will be disabled” will be displayed on the screen.

## **M.E.**

The item is a standard mechanical operation. As the dome tilts 90°, it will pan 180°, then continuing tilt to keep tracking object.

## **OFF**

Select this item to disable the flip function.



**NOTE:** The speed dome will only be able to tilt 90°, or -10° ~ 100° with angle adjuster adjustments.

### ◆ **ZOOM SPEED**

This item is used to set the zoom speed for operating the dome camera.

#### ➤ **18x MODEL**

For this model, the zoom speed options are <1> (slow) ~ <8> (fast). The default is <8>

#### ➤ **23x MODEL / 35x MODEL**

For these two models, the options are <FAST> and <SLOW> (default).

### ◆ **SPEED BY ZOOM**

If the item is set to <ON>, the pan/tilt speed will be adjusted by internal algorithm when zooming automatically. The larger zoom ratio leads the lower rotation speed.

### ◆ **AUTO CALIBRATION**

There are one horizontal and one vertical infrared rays check points in each dome. When the dome camera position may be moved during installation or maintenance, the relative distance between the original set point and the check point has been changed. Enable the Auto Calibration function, the dome will automatically detect that and reset the point baack to the original position.

## ◆ **DIGITAL ZOOM**

With this item, users can enable or disable the 12x Digital Zoom. The Digital Zoom activate after the full Optical Zoom level is reached.



**NOTE:** The difference between optical and digital zoom is that optical zoom uses the lens within the camera to draw the image closer via zoom in or out to achieve the desired effect. Optical zoom remains the same and the full resolution of the zoomed image quality. On the other hand, Digital zoom takes a portion of image and expands that image to the full size of the image; however the image quality will be reduced.

### ➤ **18x MODEL**

For this model, maximum 12x digital zoom function is allowed to be enabled. The default setting is <ON>

### ➤ **23x MODEL / 35x MODEL**

For these two models, Digital zoom ration is adjustable from <1> to <12>.

## ◆ **SLOW SHUTTER**

The shutter speed determines how long the image sensor is exposed to light. To see clear image in a dark environment, enable this function and select a slower shutter speed.

### ➤ **18x MODEL**

As enable this digital slow shutter function, the dome will automatically adjust the shutter speed basing on the light condition of installation environment. It enables users to see objects in a dark environment under 0.2 lux.

### ➤ **23x MODEL / 35x MODEL**

The shutter speed is adjustable on 23x MODEL / 35x MODEL. With the slowest shutter speed, users can see objects in a dark environment under 0.2 lux; or see a smooth video image with a higher shutter speed. The options are from <1/2> to <1/60>.

## ◆ **ANGLE ADJUSTER**

The item is for adjusting the camera view angle. The ranges of view angle are changed in different FLIP mode: the angle ranges from -10° to +100°

with ME FLIP and FLIP OFF modes, and from -10° ~ +190° with IMAGE FLIP mode. With IMAGE FLIP function, users are able to adjust the view angle from -10° ~ +190° to catch the true horizontal line.

ANGLE ADJUSTER	
ADJUST MIN ANGLE	-10 DEG
ADJUST MAX ANGLE	100 DEG
EXIT+SET	YES

◆ **STABILIZER (35x Model Only)**

With the Image Stabilizer Function, the speed Dome Camera can capture images that would otherwise be blurred due to the vibration. The built-in electronic compensation filters out the vibrations of up to 80% movement at 10Hz, as caused by wind and other environmental conditions. Its various detection mode ensures total detection for all types of environment. If the function is activated, users could select the frequency range of either 10Hz or 5Hz.

◆ **RESET**

Select this item to reset all the camera parameters of SETUP MENU2 to the factory default.

◆ **EXIT**

Exit the SETUP MENU1 and go back to MAN MENU.

**B-3-9 SETUP MENU2 (18x MODEL Only)**

The Aperture and Mask Display settings can be configured under SETUP MENU2.

SETUP MENU2	
APERTURE	01
MASK DISPLAY	FIRST

◆ **APERTURE**

Under this setup menu, users can adjust the enhancement of the edges of objects in the picture. There are 16 levels of adjustment; the options are <01>

~ <16>, <01> represents “no enhancement”. When shooting text, this function may help by making them sharper.

#### ◆ **MASK DISPLAY**

In this item, users can set the occasion to display the Privacy Mask, which aims to avoid any intrusive monitoring. If preset point function or sequence function is activated, the difference of the two display mode will be obvious.

##### **FIRST**

If select this display mode and activate preset or sequence functions, the camera will detect and display the masks set in the next area first, then rotates the dome to the next preset point.

##### **LAST**

If select this display mode and activate preset or sequence functions, the dome will move the next preset point zone, then detect and display mask set in that zone.



**NOTE:** Setting privacy mask with 1x optical zoom, and setting the sequence speed value higher than 10 is recommended.

### **B-3-10 TITLE DISPLAY**

User are allowed to name a certain view area and display its title for easy recognition. At this item, users can choose to display or not to display the titles set in advance.

#### ◆ **ON**

A title set for certain view will be displayed when the dome back to the view area.

#### ◆ **OFF**

When the TITLE DISPLAY is set <OFF>, no title will be displayed on the screen even titles are set in advance.

### **B-3-11 TITLE SETTING**

Up to 16 zone titles can be set with maximum 20 characters for each title; two

mask zones are allowed to set in a view area. Users can name the zone titles with privacy mask ID numbers for future recognition.



**NOTE:** For **23x MODEL / 35x MODEL**, the available area for setting privacy mask is restricted within tilt angle 45°.

Follow the steps to set a camera title.

- (1) Operate speed dome to certain view area where you want to set a title for it.
- (2) Turn on OSD and select <TITLE SETTING>.
- (3) Select a number to indicate the view area.
- (4) Press <ENTER> to go into editing mode.

TITLE SETTING: 01													
0	1	2	3	4	5	6	7	8	9				EXIT
A	B	C	D	E	F	G	H	I	J				SAVE
K	L	M	N	O	P	Q	R	S	T				LEFT
U	V	W	X	Y	Z	:	/	.	,				RIGHT
[	]	+	?	-						DELETE			
TITLE: ABC													

- (5) Choose a character with direction keys and then press <ENTER> to input.  
 Example: <A> <ENTER>, <B> <ENTER>, <C> <ENTER>  
 TITLE: ABC
- (6) To delete entered characters, move the cursor to <LEFT> or <RIGHT> and press <ENTER> to select a character in entry field, then move the cursor to <DELETE> and press <ENTER> to delete the selected character.
- (7) When the setting is completed, move the cursor to <SAVE> and press <ENTER> to save.

## B-3-12 ALARM SETTING

The integrated high speed dome provides eight alarm inputs and two alarm outputs (N.O. and N.C.) to connect alarm devices. With this function, dome will cooperates with alarm system to catch the event images. For wiring, please refer to the installation guide and/or qualified service personnel. Alarm parameters can be set on this page.

ALARM SETTING	
ALARM PIN	1
ALARM SWITCH	OFF
ALARM TYPE	N.C.
ALARM ACTION	
PRESET	
PRESET POINT	001
DWELL TIME	ALWAY

#### ◆ **ALARM PIN**

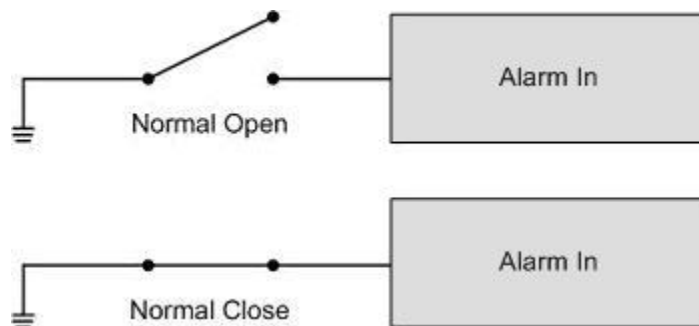
The dome provides 8 alarm inputs and 2 outputs ( 1 x N.O. and 1 x N.C.). Select an alarm connector which you want to set its alarm-related parameters with this item, and then set its alarm-related parameters in Alarm Setting menu.

#### ◆ **ALARM SWITCH**

The item is used to enable or disable the selected alarm pin function.

#### ◆ **ALARM TYPE**

There are two kinds of alarm types: Normal Open and Normal Close, which are illustrated as below. Select an alarm type that corresponds with the alarm application.



#### ◆ **ALARM ACTION**

Select one of these modes that choose a kind of actions that should be executed when an alarm is triggered. The alarm actions can be set to execute the preset position, sequence, auto-pan or cruise function.

#### ◆ **PRESET**

Select a preset point where the dome should go when an alarm pin is triggered.

#### **SEQUENCE**

Select a sequence line that the speed dome camera should execute when alarm pin is triggered. The Sequence line should be defined prior in SEQUENCE setup menu.

### **AUTOPAN**

Select an auto-pan line that the dome camera should execute when alarm pin is triggered. The Auto-pan line can be defined in setup AUTOPAN menu.

### **CRUISE**

Select a cruise line that the speed dome camera should execute when alarm pin is triggered. The Cruise line can be defined in CRUISE setup menu.

#### ◆ **DWELL TIME**

The DWELL TIME is the duration of executing ALARM ACTION: Preset or Sequence. When alarm takes place, the dome will go to the preset position or execute sequence function and stay at each sequence point for a period of time (1~127 seconds). If select <Always>, the dome will go to the preset position and stay there until alarm condition is released or users rotate the dome.



**NOTE:** The DWELL TIME is only accessible when selecting ALARM ACTION: Preset or Sequence.

#### ◆ **EXIT**

Exit the ALARM SETTING menu.

## **B-3-13 HOME SETTING**

Users are able to set an operation mode to ensure constant monitoring; if the dome idles for a period of time, the pre-set function will be activated automatically, this is the HOME function. HOME function allows constant and accurate monitoring, to avoid the speed dome stops or missing events.

HOME SETTING	
HOME FUNCTION	OFF
SELECT MODE	PRESET
PRESET POINT	001
RETURN TIME	001
GO	ENTER
EXIT	YES

#### ◆ **HOME FUNCTION**

The item is used to enable or disable the HOME function.

◆ **SELECT MODE**

Select one of the modes that the dome should execute when HOME function is enabled and the RETURN TIME is up. The options are <AUTOPAN>, <SEQUENCE>, <CRUISE> and <PRESET>.

◆ **PRESET**

Select a preset point where the speed dome should go when alarm pin is triggered.

**SEQUENCE**

Select a sequence line that the speed dome camera should execute when alarm pin is triggered. The Sequence line should be defined prior in SEQUENCE setup menu.

**AUTOPAN**

Select an auto-pan line that the speed dome camera should execute when alarm pin is triggered. The Auto-pan line can be defined in setup AUTOPAN setup menu.

**CRUISE**

Select a cruise line that the speed dome camera should execute when alarm pin is triggered. The Cruise line can be defined in CRUISE setup menu.

◆ **RETURN TIME**

The speed dome starts to count down RETURN TIME when the dome idles, and will execute the SELECT MODE function if the return time is up. The RETURN TIME ranges from 1 to 128 minutes.

◆ **GO**

If HOME function is enabled, the users are allowed to execute HOME function manually by selecting this item.

◆ **EXIT**

Exit the HOME SETTING menu.



## B-3-14 SEQUENCE

The function executes pre-positioning of the pan, tilt, zoom and focus features in a certain sequence for a camera. Before set up this function, users must setup at least two preset points.

SEQUENCE	
SEQUENCE LINE	1
SEQUENCE POINT	01
PRESET POSITION	001
SPEED	1
DWELL TIME	001
RUN SEQUENCE	ENTER
EXIT	YES

### ◆ SEQUENCE LINE

There are eight sets of sequence lines built in the speed dome camera. Using LEFT/RIGHT direction keys to select a line first and then set its sequence points.

### ◆ SEQUENCE POINT

Up to 32 points can be specified for each sequence line. The sequence points represent the orders of the preset points that the dome will automatically run, and the bellowing setup items, PRESET POSITION, SPEED, and DWELL TIME, are related to this item.

### ◆ PRESET POSITION

Users can assign a specific preset position to the selected sequence point with this item.

### ◆ SPEED

Users can set the Speed that the dome goes to the next sequence point, and setup speed range is from 1 ~ 15. Refer to below table for more information.

	PAN (degree/sec.)	TILT (degree/sec.)
Speed 1	10	8
Speed 2	23	12
Speed 3	35	22
Speed 4	45	30
Speed 5	55	40
Speed 6	65	50

<b>Speed 7</b>	75	58
<b>Speed 8</b>	185	185
<b>Speed 9</b>	205	210
<b>Speed 10</b>	225	240
<b>Speed 11</b>	250	275
<b>Speed 12</b>	280	305
<b>Speed 13</b>	320	335
<b>Speed 14</b>	365	365
<b>Speed 15</b>	400	400

◆ **DWELL TIME**

The DWELL TIME is the duration time that the speed dome will stay at the sequence point, and the range is from <0> to <127> seconds. The speed dome will go to the next sequence point when the DWELL TIME is up. If the setting is <0>, the speed dome will stay at this sequence point until users manually move the speed dome.

◆ **RUN SEQUENCE**

User can command the speed dome camera to run the selected Sequence line manually.

◆ **EXIT**

Select the item to exit the SEQUENCE menu.

### B-3-15 AUTOPAN

Auto-pan means rotating or scanning side-to-side motion by a speed dome camera to view an area horizontally. The parameters can be set on this page.

AUTOPAN	
AUTOPAN LINE	1
START POINT	TO FIND
END POINT	TO FIND
DIRECTION	RIGHT
SPEED	1
RUN AUTOPAN	ENTER
EXIT	YES

◆ **AUTOPAN LINE**

There are four sets of auto-pan lines built in speed dome camera. Users are

able to command the speed dome camera to do continuously panning without limit by setting the start point the same as endpoint.

#### ◆ **START POINT**

Follow the description to set the start position of the AUTOPAN path.

1. Move the cursor to <START POINT> and press <ENTER> while <TO FIND> item flashes, the item will turn <TO SAVE> automatically.
2. Move the speed dome to a desired position and press <ENTER> to save the position as the start point; the cursor will move to <END POINT> automatically. Ensure to set the end point to complete the auto-pan setting.



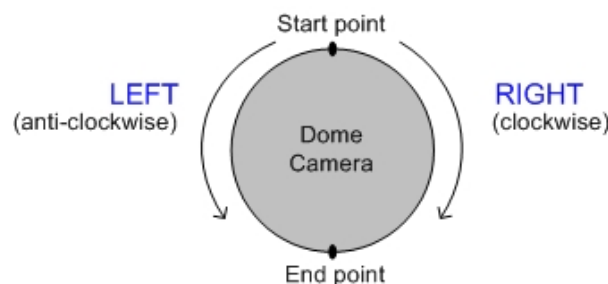
**NOTE:** The tilt and zoom value of the start point will be recorded and fixed for the selected auto-pan line.

#### ◆ **END POINT**

Users are able to set the end point after the start point is defined. Pan the dome to another position and press <ENTER> to save the position as the end point.

#### ◆ **DIRECTION**

The item is for setting the AUTOPAN direction of speed dome camera. The speed will start to pan clockwise from the start point to the end point if your selection is <RIGHT>, and then return to the start point. The speed dome will start to pan anti-clockwise from the start point to the end point if your selection is <LEFT>. Refer to below diagram.



#### ◆ **SPEED**

The item is for defining the speed dome camera rotation speed while running auto-pan. The speed is adjustable from 1 to 4; refer to the table below for

details.

	PAN (degree/sec.)
Speed 1	10
Speed 2	23
Speed 3	35
Speed 4	45

◆ **RUN AUTOPAN**

After the setting is completed, select this item to manually execute the Auto-pan function.

◆ **EXIT**

Exit the AUTOPAN setup menu.

### **B-3-16 CRUISE**

A Cruise is a route of manual operations that can be stored and recalled to execute repeatedly. It can be formed of pan, tilt position and zoom parameters (the zoom setting only with **18x MODEL**).

CRUISE	
RECORD START	ENTER
RECORD END	ENTER
RUN CRUISE	ENTER
EXIT	YES

◆ **RECORD START**

Follow the description to record the CRUISE path.

1. Rotate the speed dome camera to a desired view area. The percentage of the memory buffer will be displayed on the screen.
2. Pan, tilt the dome camera to form a path. The zoom setting is only available with **18x MODEL**.



**NOTE:** Beware of the memory size when building the cruise path. After the percentage of the buffer becomes 100%, the path will not be recorded.

◆ **RECORD END**

The cursor will be moved RECORD END while building the cruise line; when the setting is completed, press <ENTER> to save the path.

◆ **RUN CRUISE**

After the setting is completed, select this item to manually execute the Cruise function.

◆ **EXIT**

Exit the CRUISE setup menu.

### **B-3-17 IR FUNCTION (Removable IR Cut)**

With the IR cut filter, the speed dome can still catch clear image at night time or very dark light condition. During day time, the IR cut filter will be on to block the infrared light for clear image; during night time, the IR cut filter will be removed to catch infrared light to view images in black and white. Only with **23x MODEL** / **35x MODEL**, users are able to view color images when the IR function activated.

Refer to the description to operate the removable IR cut filter.

➤ **18x MODEL**

◆ **AUTO**

The internal circuit will automatically decide the occasion to remove the IR cut filter according to the value of light condition calculated by the internal light algorithm.

◆ **ON**

Select the item to remove the IR cut filter.

➤ **23x MODEL / 35x MODEL**

IR FUNCTION	
THRESHOLD	LOW
IR COLOR	COLOR
EXIT	YES

◆ **AUTO**

The internal circuit will automatically decide the occasion to remove the IR cut filter according to the image brightness level.

### **THRESHOLD**

The speed dome will remove the filter immediately when the threshold value is reached. The threshold options are <LOW>, <MID> and <HI>. <LOW> threshold indicates a higher sensitivity and can improve the reliability of lens.

### **IR COLOUR**

When IR function is enabled, the video output can be programmed as colour or B/W.

#### ◆ **ON**

Select the item to remove the IR cut filter.

### **B-3-18 ALARM DETECT (18x MODEL Only)**

This function instructs the camera to detect movement within the monitoring area and then send an alarm signal automatically. To activate this function, alarm connection setups must be completed in advance.

ALARM DETECT	
DETECT SWITCH	OFF
DETECT MODE	INT. FOCUS
EXIT	YES

#### ◆ **DETECT SWITCH**

The item is used to enable or disable the ALARM DETECTION function.

#### ◆ **DETECT MODE**

Four alarm detect modes are provided for different application.

### **INT. FOCUS**

The alarm will be triggered if the internal focus changes; and if the focus returns to the original position, the alarm will stop.

### **FIX FOCUS**

If focus movement is detected, the alarm will be triggered, and the alarm stops when focus returns to the original position. Of the detected focus movement keeps changing for more than four seconds, the new focus

position will be memorized as the reference and the alarm will stop.



**NOTE:** The INT. FOCUS and FIX FOCUS detect modes will be activated only with Auto Focus mode.

#### **INT. AE**

When Auto Exposure (AE) movement is detected, the alarm will be triggered; and if the Exposure Level returns to the original level, the alarm will stop.

#### **FIX. AE**

The alarm will be triggered if the Exposure value changes; if the adjusted AE value retains for four seconds, the value will be saved as the reference and the alarm will stop.

#### ◆ **EXIT**

Exit this page.

### **B-3-19 WDR SETTING (23x MODEL / 35x MODEL Only)**

The Wide Dynamic Range function is especially effective in solving indoor and outdoor contrast issues to enhance better image quality and video performance. It enables the speed dome to catch detailed data from the dark part (Indoor) without any saturation from the bright part (Outdoor). The parameter of WDR function can be set on this page.



**NOTE:** The Backlight function will automatically turned off when the WDR function is enabled, because the WDR function has better effect than the Backlight compensation.

WDR SETTING	
WDR SWITCH	OFF
WDR FUNCTION	AUTO
EXIT	YES

#### ◆ **WDR SWITCH**

Enable or disable the WDR function with the item.

#### ◆ **WDR FUNCTION**

The item is used to define the WDR function mode.

## AUTO

If select <AUTO>, the speed dome camera operates the WDR function automatically.

## MANUAL

Users are allowed to adjust WDR function manually by defining the RATIO LEVEL, SHUTTER SPEED and IRIS OFFSET value.

WDR MODE	
RATIO LEVEL	000
SHUTTER SPEED	000
IRIS OFFSET	000
EXIT	YES

### ◆ EXIT

Exit this setup menu.

## B-3-20 PRIVACY

The Privacy Mask function aims to avoid any intrusive monitoring. Users can adjust the camera view position, and adjust the mask size and area. The speed dome camera will memorize the center of the selected view as an original point, so it will be locked as users enter the Privacy Setup menu. Refer to the description for setting Privacy masks.



**NOTE:** The Image Flip function will be disabled automatically while the Privacy function is enabled.

### ➤ 18x MODEL

PRIVACY MASK MENU	
PRIVACY SWITCH	ON
TRANSPARENCY	OFF
COLOR	BLACK
SET MASK	01
EXIT	YES

### ◆ PRIVACY SWITCH

User can enable or disable the Privacy Mask function through this item.



◆ **TRANSPARENCY**

The colour of privacy mask can be set as transparent related to background image. Select <ON> to display transparent masks.

◆ **COLOUR**

The colour of privacy mask can be set through this item. The available colours are black, heavy gray, light gray, white, red, green, blue, cyan, yellow and magenta.

◆ **SET MASK**

Use the control device to move the speed dome camera to the area whether you want to set a mask. Press <ENTER> to enter MASK SETUP MENU. The speed dome will memorize this position as privacy mask position. Up to 24 masks can be set.

MASK01 MENU	
H CENTER	L/R
V CENTER	U/D
H SIZE	000
V SIZE	000
EXIT+SAVE	YES

**H CENTER**

The original horizontal center of mask zone is the center of screen; it is able to move to other position by adjusting the horizontal value.

**V CENTER**

The original vertical center of mask zone is the center of screen; it is able to move to other position by adjusting the vertical value.

**H SIZE (00 ~ 80)**

User can adjust the horizontal size of privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

**V SIZE (00 ~ 60)**

User can adjust the vertical size of privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

◆ **EXIT**

Exit this page.

➤ **23x MODEL / 35x MODEL**

PRIVACY	
PRIVACY SWITCH	ON
SHADE	GRAY
SET MASK	01
MASK CLEAR+RESET	01
MASK DISPLAY	FIRST
EXIT	YES

◆ **PRIVACY SWITCH**

The item is used to enable or disable masking function. Set this item to <ON> before configuring mask zone.

◆ **SHADE**

The colour of privacy mask can be selected through this item. The available colours are black, gray and white.

◆ **SET MASK**

After pressing <ENTER> on this item, speed dome will memorize this position as privacy mask position, up to 8 masks can be set. The model restricts the mask zones to be set too close with each other.

MASK01 MENU	
H CENTER	000
V CENTER	000
H SIZE	000
V SIZE	000
EXIT+SAVE	YES

**H CENTER(000 ~ 256)**

The original center of mask zone is the center of screen. User can move the center of mask zone to another position through adjust this value.

**V CENTER(000 ~ 256)**

The original center of mask zone is the center of screen. User can move the center of mask zone to another position through adjust this value.

**H SIZE(000 ~ 127)**

User can adjust the horizontal size of privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

### V SIZE(000 ~ 127)

User can adjust the vertical size of privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

#### ◆ MASK CLEAR+RESET

The item is used to clear the mask settings of the selected privacy mask. Select a mask and press <ENTER> to erase its configuration.

#### ◆ MASK DISPLAY

This item is used to set the occasion to display privacy mask.

### FIRST

If select this mode, the camera will detect the mask zone of the next preset position and display the mask in advance, then pan the speed dome to the preset point.

### LAST

If select this mode, the camera will move the speed dome to the preset point, then display the mask zone.



**NOTE:** For **23x MODEL / 35x MODEL**, the available area for setting privacy mask is restricted within tilt angle 45°, and two mask zones are allowed to set in a view area.

#### ◆ EXIT

Exit this page.

## B-3-21 TIME FUNCTION

The item is used to set the TIME related parameters of the integrated high speed dome.

TIME SETTING	
TIME DISPLAY	OFF
SET YEAR	05
SET MONTH	10
SET DAY	02
SET HOUR	12
SET MINUTE	12
EXIT+SAVE	YES

◆ **TIME DISPLAY**

Select <ON> to display the Time information on screen, or <NO> not to display.

◆ **YEAR / MONTH / DAY**

The items are for setting up the system date.

◆ **HOURL / MINUTE**

This items are for setting up the system time.

◆ **EXIT+SAVE**

Exit this page.

**B-3-22 EXIT OSD**

To exit the OSD setup menu, users can select this item.